

Protecting Sensitive Safety Data

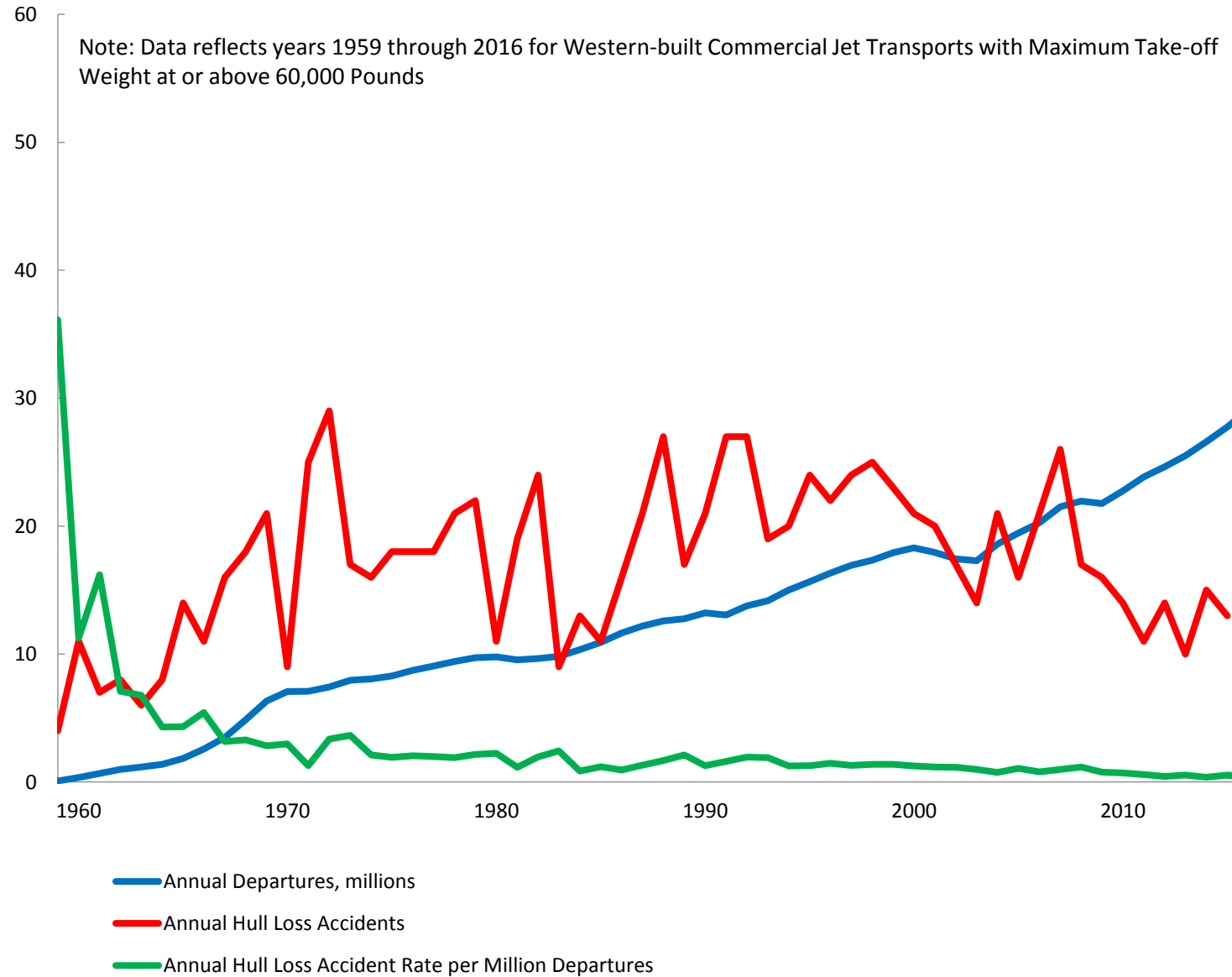
Voluntary Information-Sharing Working Group



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We Must Continuously Improve Safety to Keep the Number of Accidents in Decline as Departures Increase



Aviation Safety Action Program (ASAP)



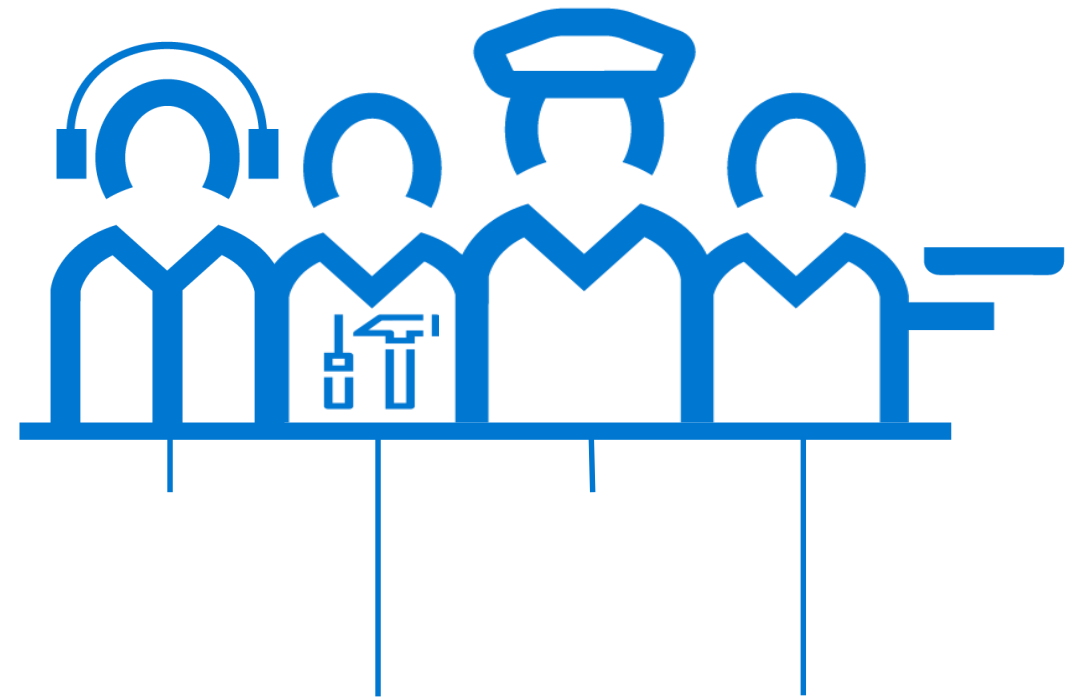
Voluntary safety reporting program

Joint program - AA, union, FAA

Confidential reports evaluated
under just culture principles

AA created the first program in the
industry - now at over 250 carriers
world-wide

Over 11,000 ASAP reports in 2017



Flight Operations Quality Assurance (FOQA)



Over 2,000 parameters are recorded each second from aircraft sensors, systems and computers



Software sifts through each flight's data identifying outliers and variance events



Aggregate trends are continuously monitored and reported as part of the SMS process



Flights identified for deeper analysis are forwarded to the pilot's union for crew contact, debrief and corrective action

ASIAS

by the numbers



Membership

154

ASIAS members

- 46 commercial air carriers
- 68 general aviation operators
- 23 industry
- 2 maintenance, repair and overhaul
- 10 flight training universities
- 5 government

164

ASIAS portal
communities
supported



ASAP

Aviation Safety Action Program

186

programs tracked

- 44 commercial air carriers
- 37 general aviation operators
- 44 maintenance
- 40 dispatch
- 21 inflight service

17

safety metrics

97%

of NAS operations

307,000 reports



FOQA

Flight Operational Quality Assurance

64

programs
tracked

- 37 commercial air carriers
- 27 general aviation operators

8

metrics and
benchmarks

99%

of commercial operations
with approved FOQA
programs participate in ASIAS

25.9 Million records

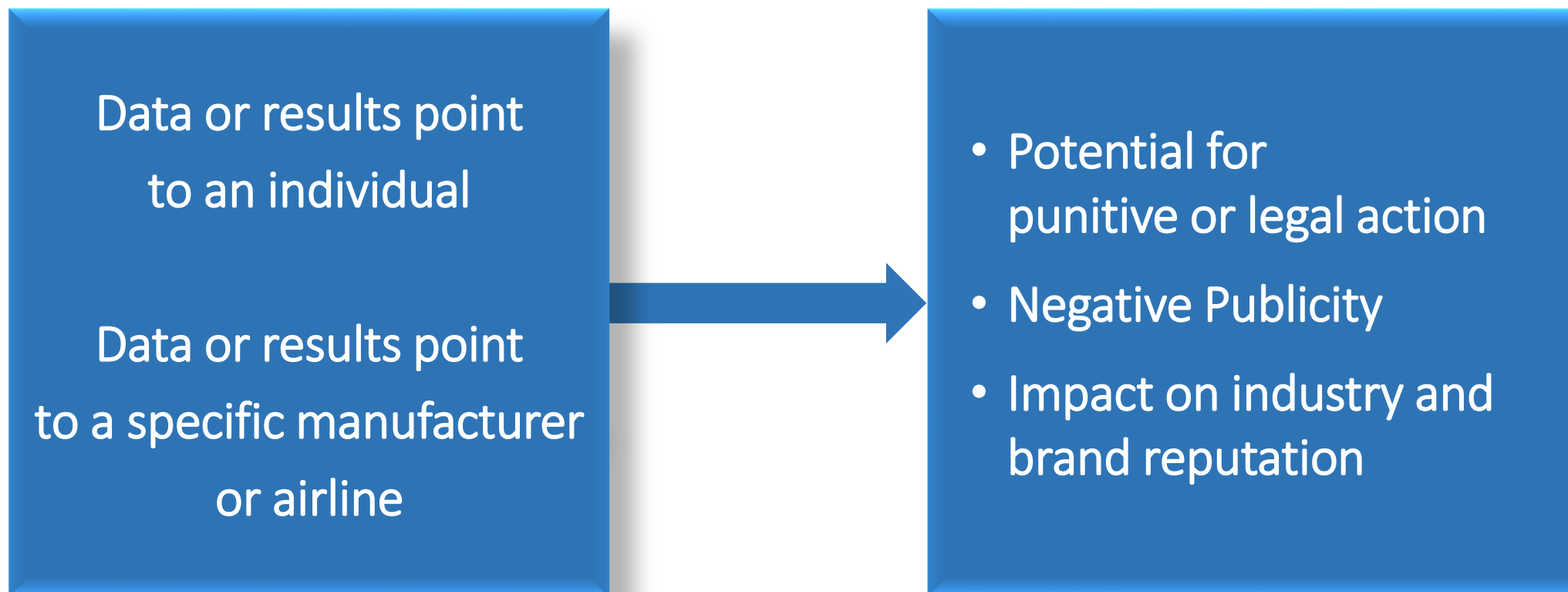


What are the Benefits of Data Sharing?

- Combining information resources will create a more accurate picture of what is going on in the community (especially in rare events).
- Possession of complete and accurate data leads to deeper analysis and system safety enhancements that benefit the entire industry.
- Shared data equals shared analysis...Collaborative analysis by a broad-based community of experts has consistently provided superior risk reduction
 - Manufacturer, operator, labor, regulator, ATC, NASA, etc...



What Are the Risks in Sharing Data?



ASIAS Guiding Principles in Data Protection

- I. ASIAS information is used solely for the identification, monitoring, and mitigation of systemic safety issues. It is not used punitively.
- II. ASIAS members voluntarily submit safety-sensitive data.
- III. Data are de-identified to preserve anonymity.
- IV. Roles and responsibilities of ASIAS stakeholders are developed collaboratively.
- V. ASIAS data use is transparent to all members and supporting organizations.
- VI. The ASIAS Executive Board (AEB) is responsible for safeguarding the trust stakeholders have placed in ASIAS. Further, the AEB assures the integrity and relevance of each analysis through careful deliberation



How Can Input Data Be Protected?

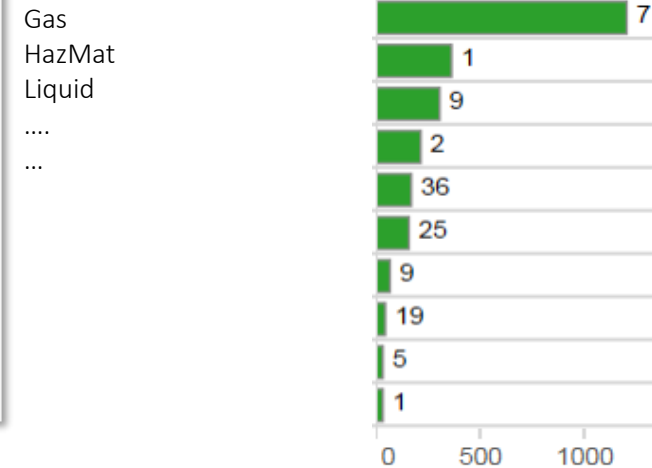
- Third-party data manager strategy
 - De-identifies participants identity prior to access by the regulator
 - Protection against forced disclosure: Not subject to FOIA
- Legally binding agreement between data provider and third-party data manager
- Information security: people / processes / technology
- Governance restrictions
 - Access to input data limited to the third-party data manager
 - Use data only for studies authorized by the government-industry partnership
 - Remove personally identifying information
 - De-identify input data, as per governance
 - Destroy data that exceeds retention time
 - Destroy data if a data provider withdraws from data sharing

De-Identifying Aggregate Results

Never report
aggregate
results if they
point to an
individual or
organization

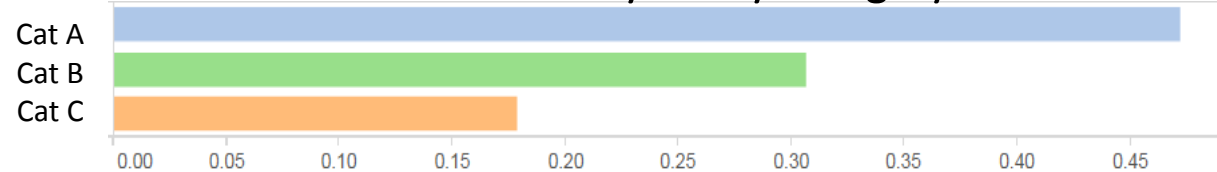
Example 1:
Report at the type
of operation only if
2 or more operators
are represented in
the aggregate
results

Event Rate by Type of Operation

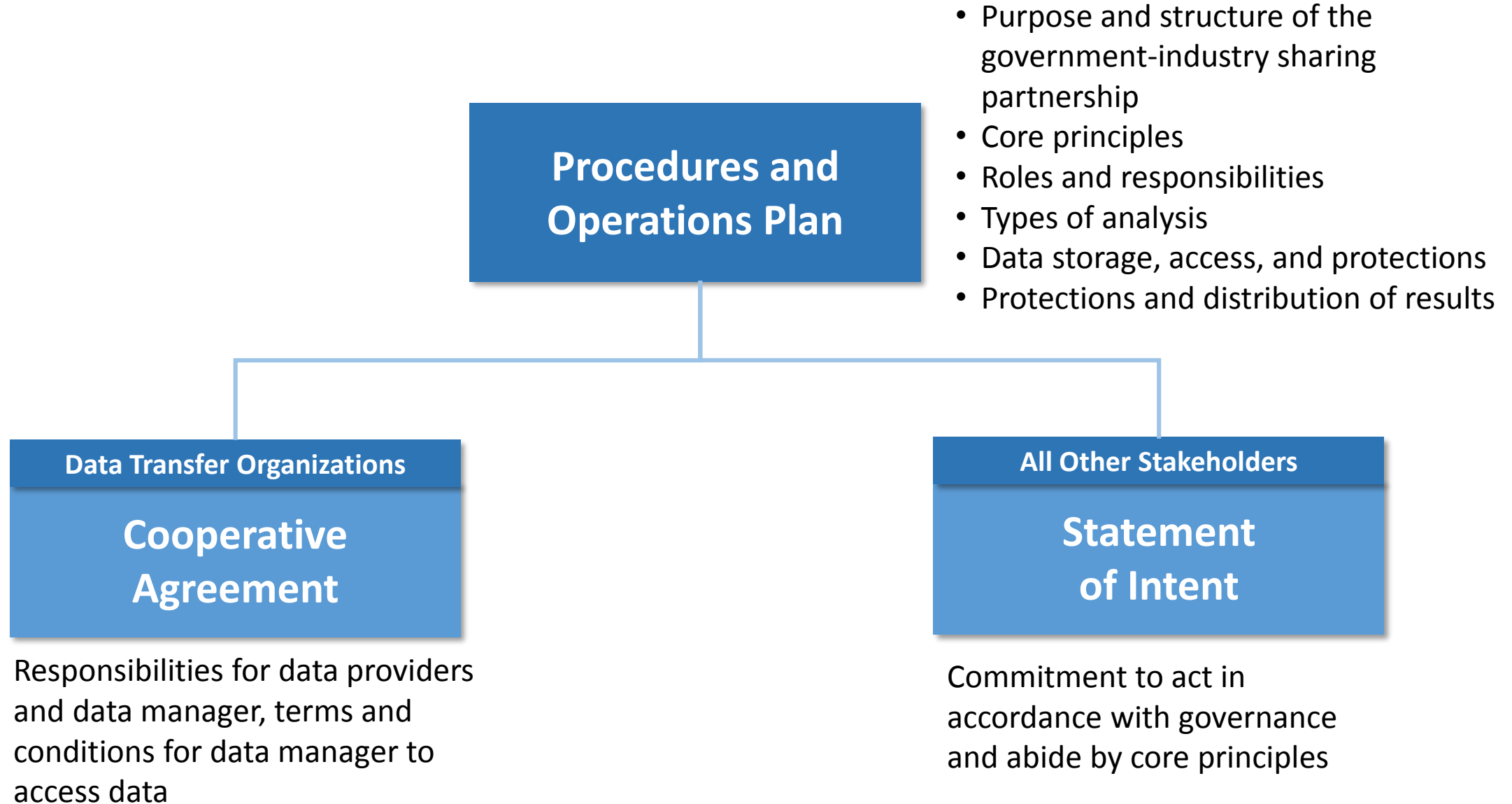


Example 2: Report by class of operation only if 2 or more
manufacturers are represented in the aggregate results

Event Rate by Safety Category



Governance Documents





Today & Beyond

- ▶ We are in the midst of the safest period in aviation history.
- ▶ In the United States there are no longer major causes of accidents.
- ▶ With so few accidents and no “common causes,” we need more data points so we can move to a prognostic or predictive approach.
- ▶ And, we need to share what we learn.



Summary



- ▶ Access to larger data sets has made a positive impact to safety across the entire industry
- ▶ Sharing of deidentified and aggregate safety information has proven to be a viable philosophy (third party data manager has been the mechanism)
- ▶ Trust is foundational for each stakeholder in the sharing partnership
 - ▶ Governance is key
 - ▶ Data sharing is a deliberate and consensus based process
 - ▶ Long term commitment and consistency to the process
 - ▶ One breach away from undermining a decade of hard-earned trust
- ▶ Transparency of this process has evolved into an unprecedented industry-government partnership
- ▶ From an industry perspective, the *benefits* of voluntary sharing of safety information outweighs the *risks*

